

Name _____

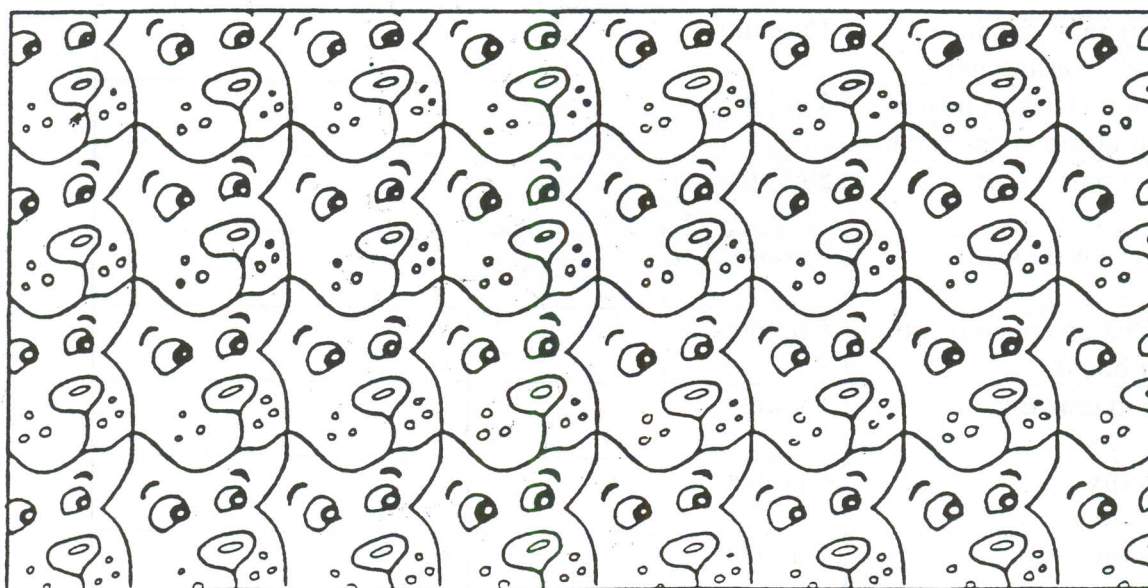
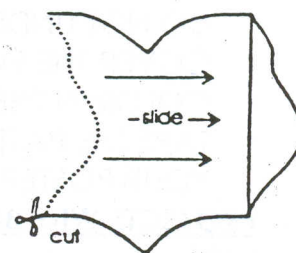
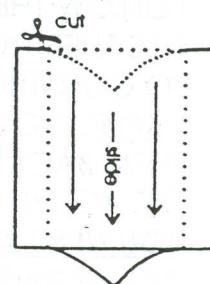
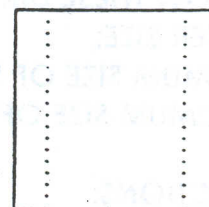
You can create a very interesting design using the cut and slide transformation to modify all four sides of a rectangle. An example is shown below.

Materials

3" manila or tag board square (or any rectangle), scrap paper, drawing paper (9" x 12" or smaller)

Procedure

1. Cut a piece from the top side of your rectangle. Slide the piece **straight down** and carefully tape it in place at the bottom of the rectangle. Don't make your cuts too intricate or complicated.
2. Cut a piece from the left side of your rectangle. Slide the piece **straight across** and carefully tape it in place at the right side of the rectangle.
3. Trace around the pattern you have made 3 or 4 times on scrap paper. Imagine what picture you might make from the shape. Fill in the shapes with different images. Choose your favorite idea to use for your project.
4. Starting in one corner of the drawing paper, trace around your pattern until you have covered the page. Complete your Escher-type project by coloring in the shapes with your favorite design.



ACTIVITY 15 MASTER

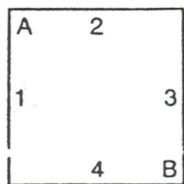
Use with Lesson 8-2.

NAME _____

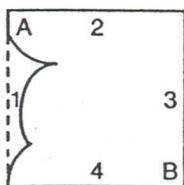
Materials needed: Geometry Template or ruler
Construction paper
Scissors
Tape

An Escher-type tessellation can be created by altering the sides of any polygon that tessellates the plane. Study how Steps 1–6 transform a square into an artistic tessellation. Then follow the steps to create your own Escher-type tessellation.

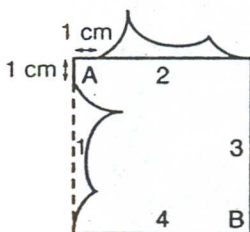
Step 1. Cut out a square piece of paper about 10 cm on a side. Label the sides and vertices as shown.



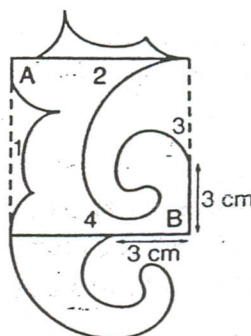
Step 2. Draw and cut any shape out of side 1. Do not cut off a corner.



Step 3. Without turning the piece over, tape it to side 2 the same distance from point A as it was before it was cut.

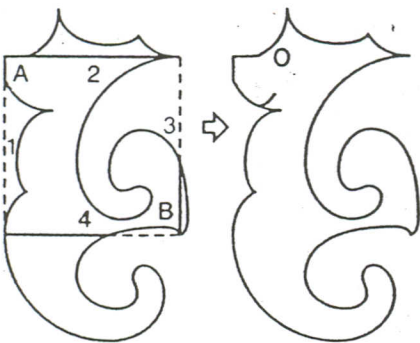


Step 4. In a similar way, cut into side 3 and tape the piece to side 4, measuring an equal distance from point B.



Step 5. Repeat the process one or two more times, cutting into any unaltered part of the square other than a corner. (If you cut off a numeral, simply remember which side is which.)

- Tape pieces from side 1 onto side 2, and from side 2 onto side 1, the same distance from A.
- Tape pieces from side 3 onto side 4, and from side 4 onto side 3, the same distance from B.
- Then add a few artistic details.



Step 6. To draw the tessellation, make repeated tracings around the pattern. Color the drawing.

